

C l a i m s

1.
A wave power plant designed to be arranged on or in the sea or a lake in order to
5 produce energy, comprising a floating structure and at least one floating body that
moves vertically relative to the floating structure and is connected to the structure via
energy transmission devices, c h a r a c t e r i z e d i n that the
floating body is designed to be retained during parts of the wave induced motion of the
body, thus to increase the energy recovery from the waves.
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2.
A wave power plant according to Claim 1, c h a r a c t e r i z e d
i n that the floating body is designed to be retained both in a lower position and in
an upper position, which lower position is such that a wave crest exerts an upward force
15 on the floating body which is greater than the weight of the body, and the upper position
is such that the weight of the body acts with a downward force that is greater than the
power effected by a through.
3.
20 A wave power plant according to one of the preceding claims,
c h a r a c t e r i z e d i n that the floating bodies are designed to
be partially filled with water.
4.
25 A wave power plant according to Claim 3, c h a r a c t e r i z e d
i n that the floating bodies comprise means of increasing or reducing the amount of
water in the floating bodies.
5.
30 A wave power plant according to Claim 4, c h a r a c t e r i z e d
i n that the means comprise an opening at the lower end of the floating body.

6.

A wave power plant according to Claim 5, c h a r a c t e r i z e d i n that the means also comprise a closable opening at the upper end of the floating body.

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7.

A wave power plant according to Claim 5, c h a r a c t e r i z e d i n that the means also comprise an adjustable extension of the floating body, which extension is arranged to receive water.

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8.

A wave power plant according to one of the preceding claims, c h a r a c t e r i z e d i n that the floating structure comprises truss work in which there are defined chambers designed to hold respective floating bodies.

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9.

A wave power plant according to one of the preceding claims, c h a r a c t e r i z e d i n that the floating bodies are supported on a guide rail that is fixed in the structure.

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A wave power plant according to Claim 8 or 9, c h a r a c t e r i z e d i n that the truss work comprises pipes made from a lightweight material, preferably plastic.

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11.

A wave power plant according to one of the preceding claims, c h a r a c t e r i z e d i n that the floating body takes the shape of a cylinder with rounded ends.

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12.

A wave power plant according to one of the preceding claims,
c h a r a c t e r i z e d i n that the floating structure comprises a
base constructed with adjustable parts in order to build up the height of passing waves,
5 so as to allow the energy to be transferred to surface waves, which impart more energy
to the floating bodies.

13.

A method of increasing the energy production from a wave power plant comprising at
10 least one floating body connected to a fixed or floating structure via energy transmission
devices, c h a r a c t e r i z e d i n that the floating body is held
in a fixed position relative to the structure during part of the period when a wave crest
passes the floating body, and released while an upward force is exerted on the body
from the wave, which force is greater than the weight of the body.

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14.

A method of increasing the energy production from a wave power plant comprising at
least one floating body connected to a fixed or floating structure via energy transmission
devices, c h a r a c t e r i z e d i n that the floating body is held
20 in a fixed position relative to the structure during part of the period when a trough
passes the floating body, and released while the weight of the body is greater than the
upward force from the wave acting on the body.

15.

25 A method according to Claim 13 or 14, c h a r a c t e r i z e d i n
that the depth of submersion of the floating body is increased when the wave period
increases, and that the depth of submersion is reduced in the case of shorter wave
periods, such that the maximum deflection of the floating body (natural frequency) is
close to the wave period.

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16.

A method according to Claim 15, c h a r a c t e r i z e d i n that the increase or reduction in depth of submersion is achieved by lowering or raising the floating body to the desired depth of submersion and allowing water to flow into or out
5 of the floating body until the level of water inside the floating body is approximately the same as outside the floating body.

17.

A method according to Claim 10, c h a r a c t e r i z e d i n that
10 the draught of the floating structure can be raised or lowered through ballasting of the structure, in order to achieve optimum wave motion through or around the structure.